PN8608

POWER-N

Low Standby-Power Quasi-Resonant Primary-Side Converter

General Description

The PN8608 consists of a Low Standby-Power Quasi-Resonant (QR) Primary-Side controller and a 650V avalanche-rugged smart power VDMOSFET, specifically designed for a high performance AC/DC charger or adaptor with minimal external components. PN8608 operates in primary-side sensing and regulation, so opto-coupler and TL431 could be eliminated. Because of internal HV Start-up circuit, the system with PN8608 can achieve less than 30mW standby power consumption (230VAC). In CV mode, multi-mode and quasi resonant technique is utilized to achieve high efficiency, avoid audible noise and make the system meeting Energy star class VI. Good load regulation is achieved by the built-in cable drop compensation. In CC mode, the current and output power setting can be adjusted externally by the sense resistor Rcs at CS pin. PN8608 offers complete protections including Cycle-by-Cycle current limiting protection (OCP), over voltage protection (OVP), over temperature protection (OTP) and CS open or short protection (CSO/SP) etc.
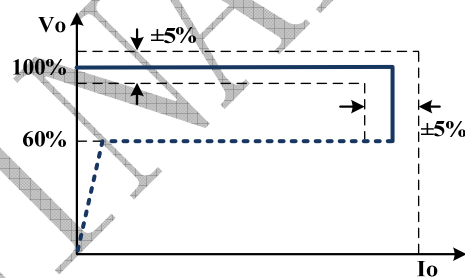
Applications

- ■ Switch AC/DC Adaptor
- ■ Battery Charger

Features

- ■ Internal 650 V avalanche-rugged smart power VDMOSFET
- ■ Internal HV Start-up Circuit, Standby power consumption < 30mW at 230VAC
- ■ Multi-mode and Quasi-Resonant technique achieve high efficiency, meeting energy star class VI
- ■ ±5% CC Regulation at Universal AC input
- ■ Primary-side Sensing and Regulation without TL431 and Opto-coupler
- ■ Programmable Cable Drop Compensation
- ■ No-need Control Loop Compensation Capacitance
- ■ Excellent Protection Coverage:
  - ✧ Over Temperature Protection (OTP)
  - ✧ VDD Under/Over Voltage Protection(UVLO&OVP)
  - ✧ Cycle-by-Cycle Current Limiting (OCP)
  - ✧ Cs Short/Open Protection (CS O/SP)

Output Features

Package/Order Information
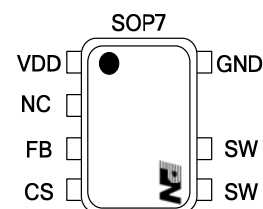
Order codes	Package	Typical power
		85~265 V_{AC}
PN8608SSC-R1	SOP-7	8W

Typical Application